

Winter Wonderland: Project 3 - Hook-a-Penguin

Activity Structure – 55 min

Activity	Timing
Warm up Games	10 mins
Introduce Project	10 mins
Main Activity	25 mins
Final test & debug	throughout
Extra time to finish games or offline activities	10 mins

Overview

The children will create a second game for their Winter Fair: Hook-a-Penguin (based on the popular hook-a-duck game).

Early finishers could have time to finish-off earlier projects or do an offline activity.

Learning Objectives

- With support, to use messaging blocks
 - * (main and advanced version. Simple version uses an 'On tap' block instead).

National Curriculum links

- **Spoken Language** To maintain attention and participate actively in collaborative conversations, staying on topic and initiating and responding to comments
- **Computing:** children will use technology purposefully to create, organise, store, manipulate and retrieve digital content

Warm up game: Flashcard recall or Green Flag, Tap, Message game

Flashcards: run through and recap the blocks that were taught this morning.

or

Green Flag, Tap, Message (this game works in a similar way to *Duck, Duck...Goose!*)

- Ask the children to sit in a circle (on the floor or around a table).
- Walk around and assign each child a 'start' block (green flag, tap or message).
- When you call out a start block the children must run around the circle and get back to their place. The last child to sit down is 'out'. (Hold up the flash card for each block as you call them out).
- If you'd prefer the children not to race, say a start block and then show them a movement block for how they need to move around the circle, e.g. 'Green flag' + 'Slow' + 'Forwards'. Or make up a movement, e.g. skip. hop,

Introduction (discuss the project together, share ideas and create excitement)

- *We are going to make a second Winter Fair game. It uses similar code to this morning, but it's slightly more challenging.*
- *Have you ever played Hook-a-Duck at a fair? What did you have to do?*
- *We're going to make a Hook-a-Penguin game. Show the project.*
- *We've used lots of different start blocks today. Can you remind me what they were? Show blocks on flashcards.*
- *We're going to learn one more start block: Start on Message. Explain and demonstrate how the message block works between the button and fishing rod.*
- To consolidate the children's understanding you could choose 2-3 of them to come up and act out some code in the role of the characters in the game. Focus on how the message block works (each time the button character is tapped it sends a message to the fishing rod which triggers it to move).

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Main Activity Key questions and teaching

1. Select the Artic background from the library. Use the Paint Editor to customise it (the simplest way it to use the Fill tool to change the water from blue to white).
2. If you have older children you could give them some time to further customise their background by adding flags, holly, Christmas decorations, etc. This could also be done once the project is finished.
3. Select four penguin characters from the library. Older children could add further details to the characters to distinguish them such as a hat, a bowtie, etc.
4. Position the penguins on the screen.
5. *Let's code the penguins. How could I make my penguins move forward continuously? What do I want my penguins to do when the fishing rod touches them?* Once the children have coded the first penguin, encourage them to drag and drop the code to the remaining penguins.
4. Draw the remaining two characters: the 'fishing rod' and the 'button' (freehand or using the shape tools). If a child really doesn't want to do the drawing or has trouble with their fine motor skills do it for them (it's a coding lesson not a drawing class so this is acceptable).
5. Position the fishing line, button and penguins on the screen. Code the fishing line and the button. *What code should we use to make the 'button' send a message to the 'fishing rod' each time it is tapped? Can we use different colour messages, or should we use the same one?*
6. *What do we want the fishing rod to do once it receives the message?* Talk the children through each step in the process so that they're clear on the sequence of events: *I tap the button, it sends a message to the fishing rod, on receipt of the message the fishing rod goes down, if it taps a penguin the penguin hides.*
7. If you have younger coders you may want to finish the project at this point. Make sure they test and debug.

8. Select a character from the library to be a cuddly toy 'prize'. Position it towards the top of the screen.
9. Code one of the 'penguins' to send a message to the 'prize' when it is 'bumped'.
10. On receipt of the message, code the prize to say, 'You won me' and 'grow' and 'shrink'. And that's it!

Teaching points

- Think about where you position the penguins on the screen. Check they aren't accidentally touching the fishing rod.
- Encourage the children to test and debug throughout.
- Support younger children to drag and drop their code to copy it from one character to another.
- If you have one penguin moving much faster than the others check that you haven't accidentally dropped more than one line of code into the penguin.

Possible Extensions

- Add two further 'prize' characters so that each penguin has a corresponding prize.
- Create a more complex movement for the penguin characters, e.g. they could 'wiggle' as they travel across the screen.
- Code a greater reaction from the 'prize' when it is triggered by the message block. You could incorporate a sound effect, a visual effect and a 'say' block.
- Type and position the word "Prizes" between your two prize characters.

To Simplify

- Don't edit the penguin characters to include feet or wings.
- Do not include prizes.
- Don't use messaging blocks, instead control the fishing rod with an 'on tap' block.